

## **CLAIMS**

1. A method of processing filamentary nanocarbon, comprising the steps of:  
providing a quantity of filamentary nanocarbon;  
providing a supply of high pressure, near-supercritical CO<sub>2</sub>;  
providing a pressure vessel;  
installing said filamentary nanocarbon into said pressure vessel;  
introducing said near-supercritical CO<sub>2</sub> into said pressure vessel; and,  
collecting said filamentary nanocarbon while releasing said near-supercritical CO<sub>2</sub> from said pressure vessel.
2. The method of claim 1 wherein said collecting step is preceded by the step of agitating the mixture of said near-supercritical CO<sub>2</sub> and said filamentary nanocarbon.
3. The method of claim 1 wherein said installing step is preceded by the step of adding a quantity of surfactant into said pressure vessel.
4. The method of claim 1 wherein said installing step is preceded by the step of adding a quantity of acid into said pressure vessel.
5. The method of claim 1 wherein said near-supercritical CO<sub>2</sub> includes an acid sufficient for metal catalyst removal.
6. The method of claim 1 wherein said installing step is preceded by the step of adding a quantity of co-solvent into said pressure vessel.
7. The method of claim 1 wherein said installing step is preceded by the step of adding a quantity of polymer to be pre-impregnated into the filamentary nanocarbon into said pressure vessel.

8. The method of claim 1 wherein said installing step is preceded by the step of adding a quantity of polymer to be coated onto the filamentary nanocarbon into said pressure vessel.
9. The method of claim 1 wherein said installing step is preceded by the step of adding a quantity of monomer into said pressure vessel for in-situ polymerization.
10. A method of processing filamentary nanocarbon, comprising the steps of:
  - providing a quantity of filamentary nanocarbon;
  - providing a supply of high pressure, near-supercritical CO<sub>2</sub>;
  - providing a pressure vessel;
  - installing said filamentary nanocarbon into said pressure vessel;
  - introducing said near-supercritical CO<sub>2</sub> into said pressure vessel; and,
  - releasing said near-supercritical CO<sub>2</sub> and said filamentary nanocarbon from said pressure vessel by spraying through a nozzle.
11. The method of claim 10 wherein said releasing step is preceded by the step of agitating the mixture of said near-supercritical CO<sub>2</sub> and said filamentary nanocarbon.
12. The method of claim 10 wherein said installing step is preceded by the step of adding a quantity of surfactant into said pressure vessel.
13. The method of claim 10 wherein said installing step is preceded by the step of adding a quantity of acid into said pressure vessel.
14. The method of claim 10 wherein said near-supercritical CO<sub>2</sub> includes an acid sufficient for metal catalyst removal.

15. The method of claim 10 wherein said installing step is preceded by the step of adding a quantity of co-solvent into said pressure vessel.
16. The method of claim 10 wherein said installing step is preceded by the step of adding a quantity of polymer to be pre-impregnated into the filamentary nanocarbon into said pressure vessel.
17. The method of claim 10 wherein said installing step is preceded by the step of adding a quantity of polymer to be coated onto the filamentary nanocarbon into said pressure vessel.
18. The method of claim 10 wherein said installing step is preceded by the step of adding a quantity of monomer into said pressure vessel for in-situ polymerization.